

ABSTRACT

The present invention is directed to an apparatus and method for detecting blockage for a semiconductor fabrication system. The detector is made of a flow detector, interposed in a gaseous flow path between a gas supply and the rest of the system. A flow comparator is coupled to the flow detector, and compares the flow rate of the gas to a baseline flow rate of gas. In this manner, blockages of the system can be detected before a catastrophic failure. In one embodiment, the flow detector is a heating element coupled to a power supply. The heating element heats the gas flowing past it, thus determining the volume or flow of gas. A temperature-measuring device is coupled to the heating element, and the heating element can be selectively enabled in response to a signal from the temperature-measuring device. A power measurement device measures the power used by the heating element. Thus, the duty cycle of the heating element indicates the flow rate of the gas. A control circuitry is communicatively coupled to the flow detector. The control circuitry is responsive to a measured parameters related to the rate of flow of the gas to the chamber. The system may issue an alarm, update a maintenance schedule, or change the operation of the system in response to a varied number of warning levels.